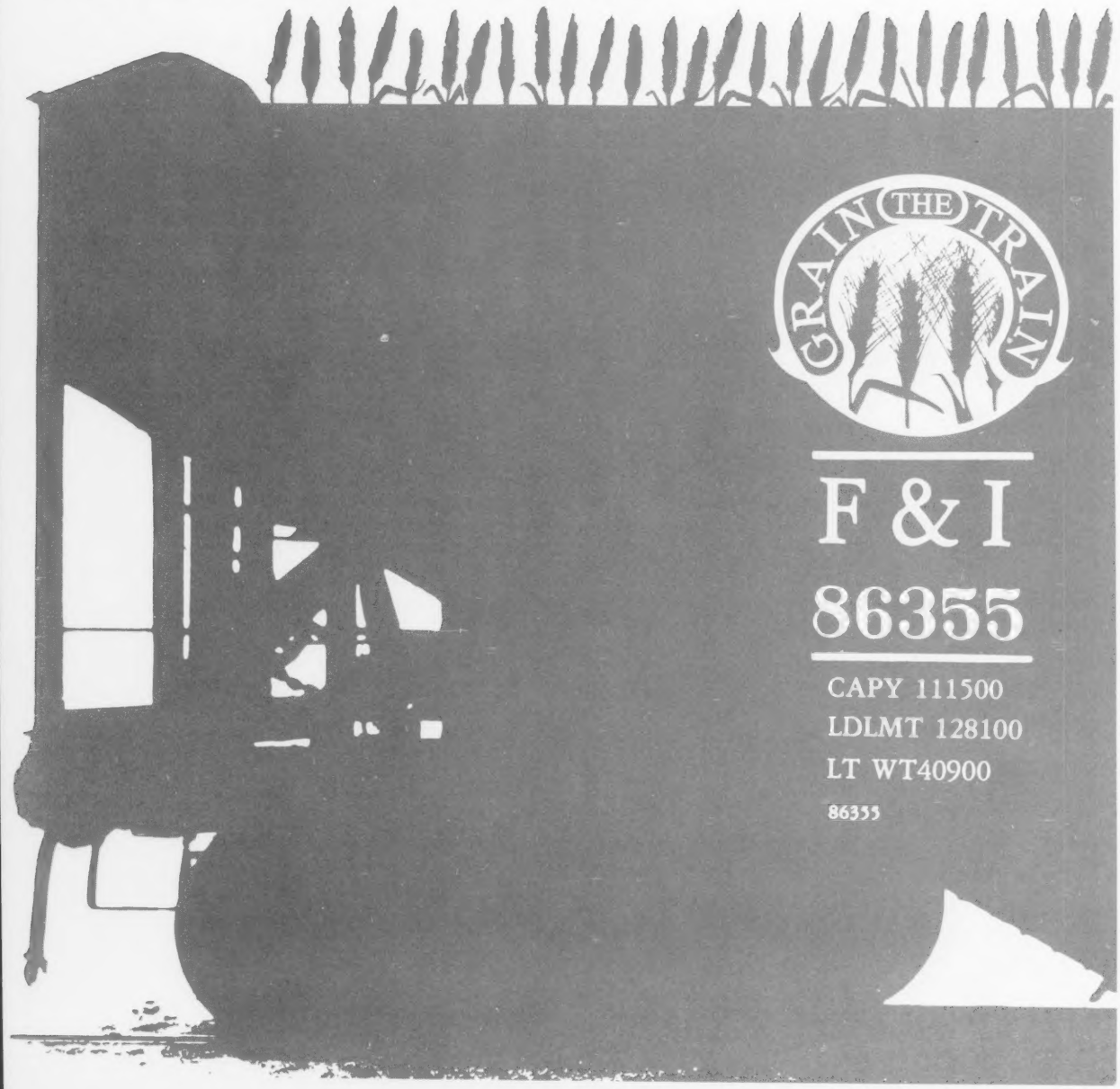
FARM INDEX

U. S. Department of Agriculture
September 1978

The Railroads: A Vital Tie



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Outlook

The farm real estate market is heating up. Sales will increase this year. So will farm income, and that's why buyers are actively looking.

How much will farmland value rise? That will depend on local conditions, but nationwide, economists see farmland values rising 6 to 10 percent in the 12 months ending next February 1, following a slow start. Last year's average gain was 9 percent, the smallest in several years.

Transfers tied to income. More farmland will change hands this year than last. Mainly, that forecast rests on the historical association between farm income and real estate transfers. Transfers jumped dramatically during 1944-48 and again in 1972-75—both periods of high net farm income.

In contrast, in the reporting year ended last February 1, farm income had been depressed. And only about 42 tracts per 1,000 farms changed hands, down 3 percent from the previous year and the least since 1970.

Transfers this year should easily top that mark, considering that net farm income is slated to jump to $25 billion, compared with last year's $20.6 billion.

Ready to act. In short, potential buyers and sellers right now may be taking less of a wait-and-see attitude than this time last year, when the cost-price squeeze was especially tight. Also, potential buyers, watching the high rate of general inflation this year, may be more inclined to buy now rather than put it off any longer.

But, don't assume anything approaching a land rush. Only a small amount of farmland typically changes hands each year, around 2 percent of the national acreage in farms.

Exports boost values. Much of the rise in farmland values we're seeing today started back in 1972 with the huge spurt in exports, which, in turn, pushed up farm income. U.S. farmland became such a prime investment that land values shot up an average of 118 percent in fewer than 5½ years.

Latest forecast for fiscal 1978: Our overseas farm sales will surpass last year's $24 billion—of itself a record—by about $1 to $2 billion.

Easier credit? Credit availablility for farm real estate loans tightened a bit in 1977. Still, getting loans to buy farmland has been no insurmountable problem.

Even though interest rates aren't expected to go down this year, the improved outlook for farm income could prompt lenders to make loan money more easily available. The average interest rate charged by the Federal land banks on new money loaned during the first part of 1978 was 8.23 percent.

Price vs. use. In early 1978, an acre of U.S. farmland was valued at a record $490 on the average, ranging from $93 in New Mexico to $2,051 in New Jersey.

Of the farm real estate transfers in the year ended last March 1, about nine-tenths of the acreage should still be in agriculture 5 years from now. Nationally, that land sold for an average of $595 an acre. Land for forestry went for $373 . . . recreation land for $508.

On the high end, commercial and industrial property brought $2,008, followed by tracts for rural dwellings at $1,024.

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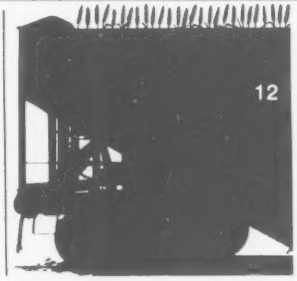

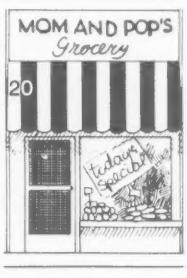

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The Foreign Connection: Imports

Like their world trade partner, exports, U.S. agricultural imports have grown by leaps and bounds over the past decade. Last year, these imports totaled a record $13.4 billion—three times their 1967 value.

By the same token, U.S. agricultural exports amounted to $24 billion in 1977, an all-time high which was more than three and a half times their average value of 10 years ago. (All years referred to in this article and the accompanying stories, unless otherwise stated, are fiscal, which end June or September 30; the fiscal year was changed to October-September in 1977.)

The growth pattern of American farm imports over the past decade has been similar to that of agricultural exports, with most of the value gain occurring after 1972.

Value gain. From 1972 to 1977, the value of agricultural imports increased a whopping 121 percent, while the previous 5-year period—1967 to 1972—experienced a moderate value gain of only 36 percent. (When adjusted by the index of wholesale prices, the value gains were lowered to 17 percent for the 1967-72 period, and 34 percent for the next 5 years.)

Sharp increases in both supplementary and complementary imports accounted for the gains in farm import values since 1972.

Supplementary imports are partially competitive—that is, they compete with domestic production to varying degrees. Such imports include meats, sugar, oilseeds, vegetables, wines, unmanufactured tobacco, fruits, nuts, and grains.

Complementary imports. On the other hand, complementary imports are noncompetitive. Some of the more important ones are coffee, rubber, bananas, cocoa beans, drugs, spices, tea, and unmanufactured wool—items not produced in this country. Most complementary products are duty free.

Except for last year, complementary items have accounted for a smaller share of total U.S. agricultural imports over the past decade than supplementary commodities.

In general, supplementary imports are attracted into the American market when domestic prices are relatively high, just as they are discouraged when domestic prices are low relative to prices in the exporting countries.

The increase in the actual value of supplementary imports during the 1972-77 period was largely due to record-high sugar prices in 1975.

High sugar prices. Although the volume of sugar imports in that year was the lowest since 1966, phenomenal prices—as much as $829 per short ton—drove the import value up to nearly $2.6 billion, compared with $1.2 billion the year before. Sugar imports alone accounted for more than a third of the value of all supplementary imports in 1975.

As a result of lower prices, the value of sugar imports fell significantly in 1976 and 1977, contributing to the lower value of supplementary imports in those years.

As for complementary commodities, coffee imports alone equaled two-thirds

of the value gain in total complementary imports between 1972 and 1977. This major agricultural import—the most important one in the Nation—experienced value gains in every one of the 5 years, except for 1975.

Coffee import value. Last year, as a result of a sharp rise in the unit value of coffee—from 85 cents per pound in 1976 to $1.85 in 1977—the value of green coffee imports (the major type imported) increased 96 percent.

However, things are looking up. In the last half of 1977, the import value declined, and in the last 2 months of that year, coffee prices decreased for the first time in almost 2 years. The fall in prices generally reflected reduced import demand, smaller roastings, and relatively favorable inventories.

In addition to coffee, value gains were experienced by several other complementary items during the 1972-77 period, including rubber, cocoa beans, bananas, and tea. Lesser gains were reported for drugs and spices, while wool's import value actually declined.

All of the world's regions have contributed to the rising import value trend of recent years.

Leading world region. The Latin American countries, including Mexico, Central America, and the Caribbean, along with South America, are the leading source of American farm imports, accounting for more than two-fifths of the U.S. total in 1977.

In that year, Brazil and Mexico were the area's leading exporters to this country, followed by Colombia, the Dominican Republic, El Salvador, Guatemala, Ecuador, Costa Rica, and Honduras.

The Latin American countries are the source from which nearly half of the

Import Regulations: Protecting U.S. Interests

Foreign countries may be some of American farmers' best clients, but they can also be the source of fierce competition.

To protect U.S. interests, about half of all American agricultural imports are subject to duties. The other half—mainly commodities not commercially produced in this country—are duty free.

Average farm import duties are relatively low. In calendar year 1976, for example, they averaged slightly more than 3 percent of total agricultural imports. And as a percentage of dutiable agricultural imports, they averaged 7 percent ad valorem (percent rate of value).

In addition to import duties, certain agricultural commodities are controlled by fees or quotas, which are authorized by the President under the provisions of Section 22 of the Agricultural Adjustment Act of 1933, as amended.

Products currently subject to Section 22 import quotas are cotton, including products and certain wastes, specified dairy products, and peanuts, while sugar is regulated by the law's import fees. An annual sugar quota of 7 million short tons (raw value) under other authority is also in force, but does not, in fact, limit imports.

Effective January 21, 1978, all U.S. imported sugar became subject to fixed fees of 2.7 cents per pound for raw sugar and 3.22 cents per pound for refined sugar, provided that the fees do not exceed 50 percent of the value of the imported sugar.

Imports of certain meats may be regulated under conditions specified in P.L. 88-482. This law provides controls for fresh, frozen, or chilled meat from cattle, goats, and sheep (except lambs) for any year when imports would otherwise rise 10 percent or more above an adjusted base quota.

The base quota for calendar year 1978 is almost 1.2 billion pounds; the quota "triggering" level is slightly more than 1.3 billion pounds.

To assure that total meat imports to the U.S. this calendar year won't exceed the trigger level for quotas, the Government has reached a basic agreement with the governments of major meat exporting countries on arrangements to govern American import trade in meat, primarily beef.

The agreements, in which suppliers agree to hold exports to the U.S. below designated levels, have been signed by 12 participating countries. Canada is expected to participate in a separate arrangement covering U.S.-Canadian trade in beef, similar to that of calendar year 1977.

The Trade Act of 1974 provides procedures for seeking relief from injury caused by import competition. Remedies include, among other measures, the imposition of temporary quotas or tariffs.

The act also amends the Antidumping Act of 1921 and the Tariff Act of 1930, which provide for countervailing duties.

value increase in total U.S. farm imports originated between 1972 and 1977, thanks mainly to their production of coffee and, to a lesser degree, sugar.

Major coffee exporters. In 1977, the leading Latin American coffee exporters to the U.S. were Brazil, Colombia, Mexico, and El Salvador. Other important sources of green coffee imports from this region were Guatemala, Ecuador, Peru, and the Dominican Republic.

Besides coffee, the Latin American countries supply the U.S. with sugar, cocoa, bananas, fruits and vegetables, beef and veal, oilseeds, and tobacco.

The second leading region for American farm imports last year was Asia, which accounted for nearly a fifth of the U.S. total.

The Philippines, Indonesia, Malaysia, and India were the major exporters from this area, with rubber, sugar, coffee, tea, coconut and palm oil, and fruits and vegetables being the principal export items.

Third-ranked Europe. Europe ranked third among the major world regions as a source of U.S. agricultural imports in 1977, contributing about a sixth of the American total.

Principal country origins include the Netherlands, France, Denmark, Italy, Spain, and Poland. Leading imports from Europe last year were wine and malt beverages, pork, cheese, vegetables and preparations, and tobacco.

About 14 percent of American farm imports were obtained from Africa last year, mainly coffee, cocoa beans and products, sugar, rubber, and nuts and preparations.

The leading country sources from this continent were the Ivory Coast, Uganda, Zaire, Ethiopia, the Malagasy Republic, Kenya, Ghana, Nigeria, Liberia, Tanzania, and the Republic of South Africa.

Oceania's exports. Oceania, comprising Australia and New Zealand, supplied the U.S. with about 7 percent of its total farm imports in 1977. Beef and veal, casein, cheese, sugar, and wool were the leading commodities.

About 5 percent of U.S. agricultural imports were sent from North America (Canada) last year. Our northern neighbor supplied us with live cattle, beef and veal, malt beverages, barley, furs, and coffee extracts.

Canada was the third most important country source of American farm imports in 1977, although it trailed far behind Brazil and Mexico.

And what about this year—will U.S. agricultural imports continue their upward value trend, or will they level off?

Outlook for 1978. According to the latest (August 18) *Outlook for U.S. Agricultural Exports,* American farm imports are expected to total about $13.7 billion in 1978, slightly more than last year's record.

Import value has been running ahead of 1977's pace, but is expected to taper off as world prices for major items, including tropical products—mainly coffee, cocoa, and tea—and sugar, continue to decline.

Oilseeds and vegetable oils are other important commodities that are likely to decline in value in 1978, while substantial value increases are seen for dairy and poultry products, meat and products, vegetables and preparations, tobacco, and wine.

[Based on the article, "U.S. Agricultural Imports and Trade Balances: Short-Term Trends," in the May 1978 issue of *FATUS,* by Robert L. Tontz, Foreign Demand and Competition Division, and the May 18, 1978 *Outlook for U.S. Agricultural Exports.*]

Value of U.S. Agricultural Imports, 1977[1]

Complementary commodities	Million
Coffee	$4,288
(green)	3,974
Rubber, crude dry form	571
Bananas, fresh	310
Cocoa beans	475
Drugs	133
Spices	133
Tea	178
Wool, unmanufactured	26
Other	689
Total	6,803

Supplementary commodities	Million
Animals and animal products	$2,310
(meats)	1,289
Sugar, cane and beet	916
Oilseeds and products	639
Vegetables and preparations	616
Wines	384
Tobacco, unmanufactured	339
Fruits and preparations	373
Nuts and preparations	214
Grains and preparations	172
Other	616
Total	6,579

Total agricultural ..... $13,382 million

[1]Fiscal year, Oct.-Sept. Source: U.S. Bureau of the Census.

Agriculture and U.S. Trade Balances

No story on world trade would be complete without a clarification of the meaning and application of the balance-of-payments statistical tabulation and the closely related, but more restrictive, balance-of-trade formula.

The balance-of-payments computation covers all types of international transactions between residents of the U.S. and the rest of the world and involves the transfer of ownership of something of economic value, measurable in monetary terms. This may be merchandise, a service, a capital asset, or an investment—private or governmental.

A surplus in the balance of payments arises from an excess of total receipts over total payments. Conversely, a deficit occurs from an excess of total payments over total receipts. The current U.S. account deficit was $20.2 billion in calendar year 1977—1.4 percent of the gross domestic product for calendar year 1976.

For the 23 countries of the Organization for Economic Cooperation and Development, which includes the U.S., the current account deficit in calendar year 1977 was $32 billion, a minus three-fourths of 1 percent of the gross domestic product for the previous calendar year.

The current account balance is closely related to the level of economic activity. For instance, higher domestic demand generally leads to more imports and, thereby, to a smaller surplus or a larger deficit. A decline in the balance generated by external forces must be offset by stronger domestic demand if gross national product growth is to remain unchanged.

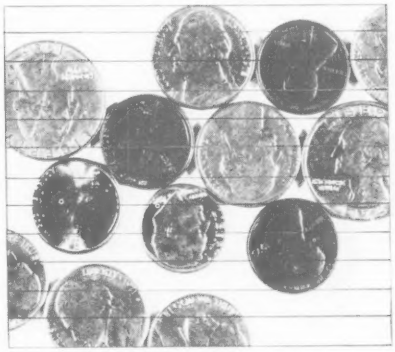
U.S. agriculture's contribution to the U.S. balance of payments comes not only from commercial sales for dollars, but also from contributions from noncommercial exports, principally those of P.L. 83-480.

Such contributions, however, constitute a relatively small share of the gross contribution. For example, in the first three quarters of calendar year 1977, the contribution from noncommercial exports was 2 percent of the gross contribution from total U.S. agricultural exports. This compares with 6 percent a decade earlier.

The balance-of-trade formula refers to the value difference (excess or deficiency) of merchandise exports and imports moving between the U.S. and other countries. (For this story, the U.S. agricultural trade balance is based on American exports generally valued at the U.S. port of export f.a.s.—free alongside ship—and U.S. import statistics valued on an f.a.s. basis at the foreign port of origin in accordance with Federal statute.)

In 1977, the U.S. agricultural trade balance was $10.6 billion. This was the fourth consecutive year in which the annual trade balance exceeded $10 billion.

Last year's favorable trade balance was, for the most part, a result of the rapidly rising value trend of U.S. agricultural exports, which more than offset the value increase in U.S. farm imports.



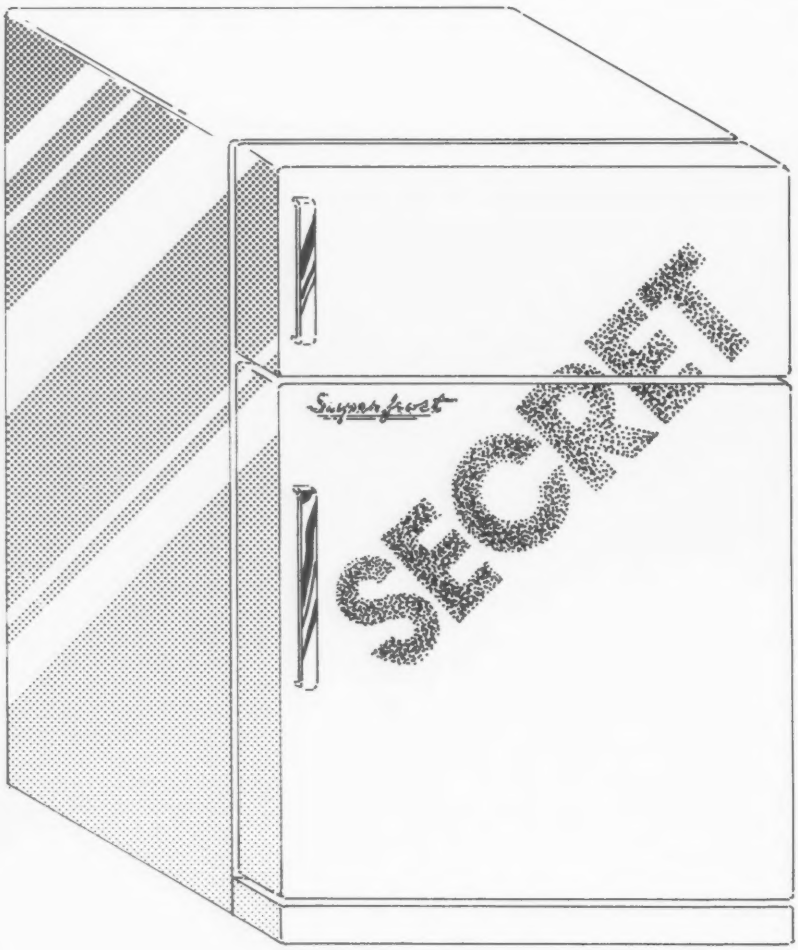
Trade balances for Europe and Asia, the principal markets for U.S. exports of wheat, feed grains, oilseeds, and animal products, were largest in 1977—these two areas experienced the greatest regional growths over the past decade. The U.S. also enjoyed a favorable trade balance with the North American (Canadian) region in that year.

Unfavorable trade balances (U.S. deficits of exports to imports) in 1977, as well as over the past 10 years, have generally characterized the other major world regions: Mexico, Central America, and the Caribbean; South America; Oceania; and Africa.

Unfavorable trade balances with these regions generally occur because of the large volume of complementary (noncompetitive) commodities we import from the Latin American countries and Africa, and the competitive items—principally meat—we import from Oceania.

For all products, farm and nonfarm, the U.S. merchandise trade balance shifted from a surplus of $3.5 billion in 1976 to a record deficit of $25.2 billion in 1977. Were it not for the favorable agricultural trade surplus, last year's total merchandise trade deficit would have been much worse.

The Telltale Diet



If you want to keep your age a secret, you'd better hide your refrigerator—your diet may be giving you away.

According to ESCS studies, age and sex have a lot to do with food preferences and eating habits.

Generally, young children eat small amounts of food until they become teenagers, when boys double the amount they eat. Girls increase their intake, but don't eat anywhere near as much as boys.

When adult flabbiness threatens in the 30's, people cut down on food and progressively eat less for the rest of their lives.

Popular dairy and grain products. Children consume a lot of dairy foods and grain products—milk, cereal, bread, and cakes—but less meat, protein, fish, and vegetables. Boys under 10 consume more fruit and milk than girls.

At about age 10, kids begin to eat more like adults. They stick with the breads and cereals, but add more vegetables and meat to their diets. Nevertheless, they still crave large amounts of candy until about age 20.

Ask any mother—it's almost impossible to fill up a boy aged 15-19. Boys this age eat more foods, especially bakery products, soft drinks, and milk, than any other age group.

Less fruit. Girls eat less fruit than boys after the age of 14 and continue to do so until about the age of 60, when women eat almost the same amount as men.

Food intake begins to level off between the ages of 20 to 34, and after 35, both men and women eat less than they did before. Men drink only half as much milk as they did as teenagers.

Women eat less beef, pork, bread, and milk as they grow older, but more fruit and cereals. They've also stopped eating the large quantities of grain products they did in the past because of the "think thin" trend of recent years.

This is also reflected in the recent increase in lettuce sold in groceries and the rapid growth of salad bars in fast food restaurants.

Older people eat less. Somewhere around the late 50's and early 60's, both men and women consume less. Because

older people are less active and their metabolism slows down, they require less food. One out of eight omits one meal or more a day, usually lunch. Because they tend to cook for fewer people, their diets are often poorer.

A very popular food among elderly people is cheese, probably because it's soft, easy to chew, a good protein source, and requires no preparation. Cereals and ice cream are also very popular, but soft drinks aren't.

Elderly men cut down sharply on bakery products and meat, and drink much less milk than they did in the past.

Elderly women cut back their consumption of vegetables, beef, and pork. However, they consume about the same amount of milk, bakery products, and fruit as they did when they were middle aged.

Eating habits and food bills. Now, just what does all this mean when it comes to paying the food bills?

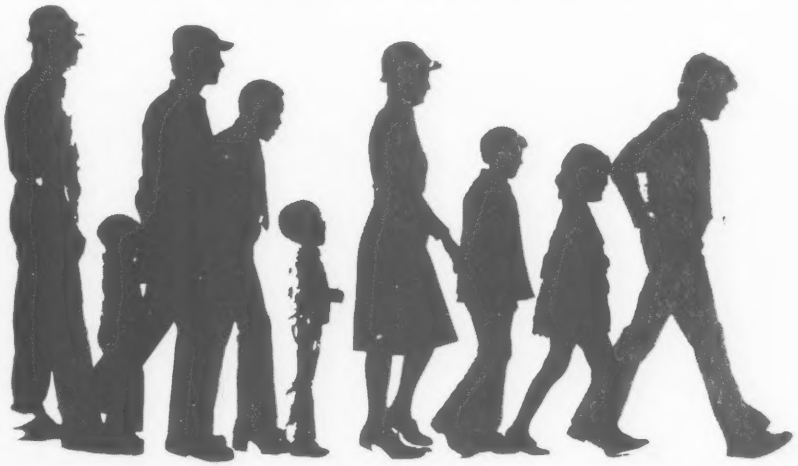
According to one study, bigger families have larger food expenditures, but they actually spend less per person.

And, holding family size constant, household expenditures (1) increase as the age of children in the family increase, (2) are higher for a family having male children, and (3) are lower for a household consisting of elderly people.

Males between 15 and the late 50's are the most expensive family members to feed. In comparison, infants and elderly females only cost half as much to feed, while adult females and elderly males cost about three-fourths as much.

[Based on the report, "The Relationship Between Household Food Expenditures and Household Size and Composition," by Larry Salathe and Rueben Buse, and special material from Corinne Le Bovit, all with the National Economic Analysis Division.]

The Effects of Population Shifts



There's likely to be fewer milk cartons in our refrigerators in the future, and the reason is largely shifts in population.

Shrinking households, caused by lower birth rates, the climbing divorce rate, and the recent tendency of young people to leave their parent's households, are resulting in an increase in the number of single-person households.

The biggest changes expected in the next 10 years will be a smaller proportion of teenagers and young adults and an increase in older adults, especially women.

Fewer children will mean less demand for certain foods—milk in particular. Dairy farmers stand to lose money since children are the biggest consumers of milk. However, the shift to smaller households means more ice cream and cheese eaters, since one- and two-person households consume a lot of these products. Thus, this tendency may make up for the loss in milk customers.

Producers of other foods consumed mainly by children, such as cereals and baked goods, will also be affected. Fewer young men, teenage boys, and large households—the big bread eaters—will cause a drop in cereal and bread consumption, but for other baked goods, high consuming smaller households will offset the effect of fewer men and boys.

The potato market will suffer as well, since single-person households are the lowest consumers of this vegetable.

The demand for eggs will decrease, although not because of population shifts: The discovery of their high-cholesterol content is the reason.

On the other hand, fruit, vegetable, beef, and pork producers will prosper, as adults are high consumers of these items.

[Based on the report, "The Impact of Some Demographic Changes on U.S. Food Consumption: 1965-75 and 1975-90," by Corinne Le Bovit, National Economic Analysis Division.]

Policing A Country Mile

A string of options, wound tightly around local budgets and needs, faces decisionmakers seeking to improve rural police agencies.

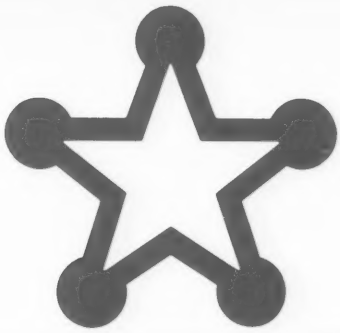
The quest for more and better police services is neither new nor unexpected. It comes in the wake of rising rural populations, as well as mounting rural crime rates. Still, expenses for police can jolt budget-conscious officials, regardless of whether a community builds its own force or contracts with another government entity.

Decisionmakers keep in mind the unique needs of rural law enforcement agencies when they make those choices. For example, demands for police response time of 3 minutes for emergencies and 20 minutes for nonemergencies, while reasonable in the city, are unrealistic in the country.

A country mile. For one thing, the rural police agency typically will have few officers on call at any one time. Also, when rural police officers refer to a country mile, they're talking about the great distances they often have to travel to answer a call.

Local decisionmakers—long before they get too far into the job of refining their law enforcement tools—have to answer basic questions:

- How much police coverage can the community afford? Twenty-four hours a day, seven days a week, or something less?
- How much coverage is really needed? That is, how many calls do your



police answer now, and what kind are they?

• What alternatives are available to decisionmakers?

Officials can transform the answers to these questions into mathematical accounts to estimate the annual costs of operating a police force. Most towns work out several accounts, then select the option that best fits local needs.

The shopping list. For example, a police patrol car in a Great Plains community may have cost $4,500-$5,000, fully equipped in 1976. Car and equipment costs vary depending on whether the community opts for minimum quality, or something more expensive.

The chief cost is for the car itself, but after that come top lights, a siren, door emblems, a fire extinguisher, a spotlight, and a first-aid kit. A two-way radio is part of the communications complex and is billed separately.

Communities find that even the smallest of forces need some investigative equipment, although most State or county law enforcement agencies are better equipped to handle complicated scientific investigation.

Down to basics. Basic investigative equipment for day-to-day police operations, such as a finger/printing kit, a narcotics detection kit, a camera, a tape recorder, and a breathalyzer, could cost the community between $1,200 and $2,500. But remember, that total is for one each of the pieces listed; usually, more tools are needed.

Police uniforms and personal equipment also slice into the budget pie. Four shirts, a couple pair of pants, a hat, a tie, a whistle, a belt (complete with holster, etc.), and other items to round out the well-dressed officer can easily run $200. Add in a gun, handcuffs, nightstick, and flashlight—at a total cost of $162-$264 per officer—and the bills are just starting to roll in.

A rule of thumb. Costs jump, of course, with larger police forces, and the number of officers needed depends largely on the number of people served. A rule of thumb is that one officer is needed for every 1,000 population. And the larger the force, the greater the need for support staff.

In addition, figure in $650-$800 for minimum office equipment for the chief and a secretary or file clerk; a radar unit for traffic costs $1,000-$1,400; and a complement of rifles and shotguns, variously priced at $100-$160 each, clear the way for the really big purchases.

Namely, the lockup. The detention facilities are by far the largest nonsalary expenditures. While most local agencies can rely on county, State, or Federal jails for long-term detention, even very small forces need access to some kind of short-term lockup to hold prisoners awaiting transportation to the long-term facility.

Cost per inmate. On a national average, the cost of a new long-term detention facility is $6,825-$7,350 per inmate. In the Great Plains communities studied, the average jail population was 9 inmates, and the jails had capacities of 12-75 persons. Besides that, separate facilities may be required for men and women, and for juveniles.

For these reasons, most localities rely on the county lockup for holding prisoners more than a few hours. For short stays, nearly any isolated room with a heavy, lockable door and toilet facilities may be used.

The need for more and better police services in rural areas is clear. Not only is the crime rate in rural America on the rise, but people are calling the police more for noncriminal matters.

In an open country area around a typical Great Plains town last year, public service calls to police in the municipality outpaced violent crime calls by a seven-to-one margin. The ratio inside the municipality was about three to one.

Budget busters. And just as clear as the need is the cost. Building a police force from scratch can be rough on a local community. Economists figure a Great Plains town with 3,800 population would have to spend nearly $64,000 a year for a police force—not counting the massive outlay for police headquarters and a detention facitilty.

That coverage is for 24 hours a day, 7 days a week. Providing 8-hour coverage, 7 days a week, would cost that town about $25,000. On the other hand, the town could contract with another government entity, say the county sheriff, for coverage at a cost of only $12,000. But that's for 8 hours a day, 5 days a week.

A question of control. And there's another important consideration for communities thinking about contracting for police services or entering into a cooperative with another town in the same boat: Some control is lost.

Depending on the community and the way people feel about it, losing local control can hurt. In a cooperative or contract arrangement, the local authorities do not necessarily have the authority to set patrol schedules or policy.

Each community assesses the alternatives differently, but there's a common thread: The modern police agency is a part of the country scene.

[Based on "Economics of Alternative Law Enforcement Delivery Systems in Rural Areas of the Great Plains," by Joseph F. Schmidt, Economic Development Division, and Gerald A. Doeksen, Oklahoma State University.]

The Railroads: A Vital Tie

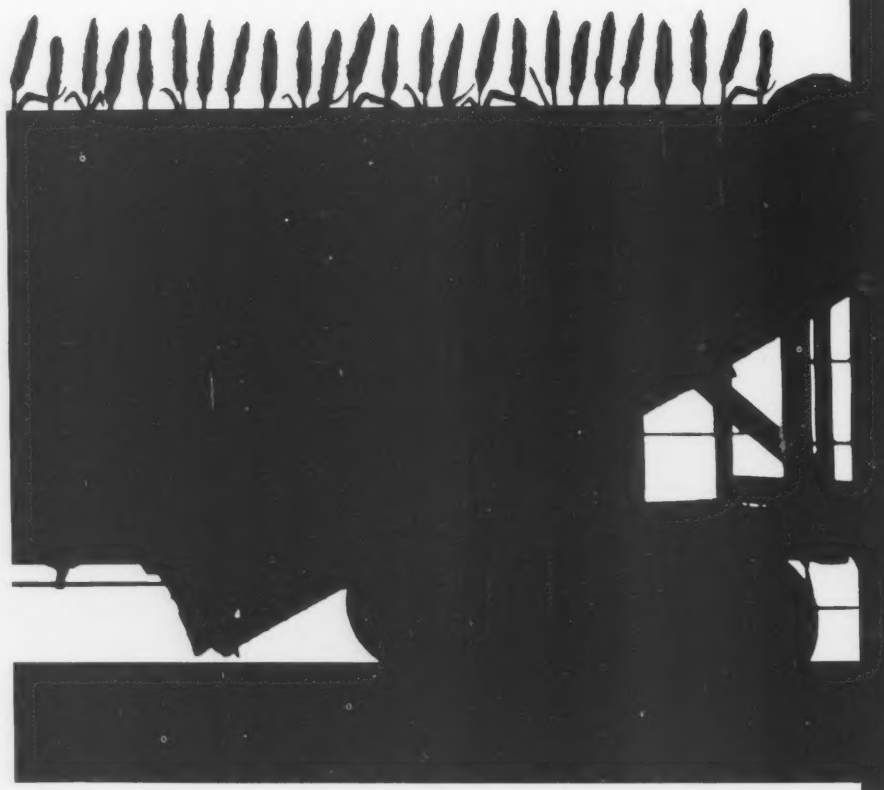
America's railroads are well on their way to moving a record amount of grain this year, despite what is purported to be the worst railcar shortage in history. Although the shortage appears to be easing, spot problems have caused frustration, additional expenses, delays in shipments, and a potential for crop damage to grain unable to be moved.

Of course, railcar shortages for grain crops are not new on the American scene.

For one thing, the cars themselves are not being replaced as fast as they are being put out of use. Plain boxcars, which numbered over 646,000 in service in 1960, have shrunk by 60 percent in the past 17 years—to a mere 262,000 in 1977.

On the other hand, covered hopper cars have increased by 60 percent—to over 157,000 cars. But although the individual covered hoppers carry 65 percent more than the boxcars, there's still a net decrease in car capacity.

Put that decreased capacity together with more grain being produced—and more being exported—and you come up with a worsening situation, although barges and trucks have shouldered much of the increased load.

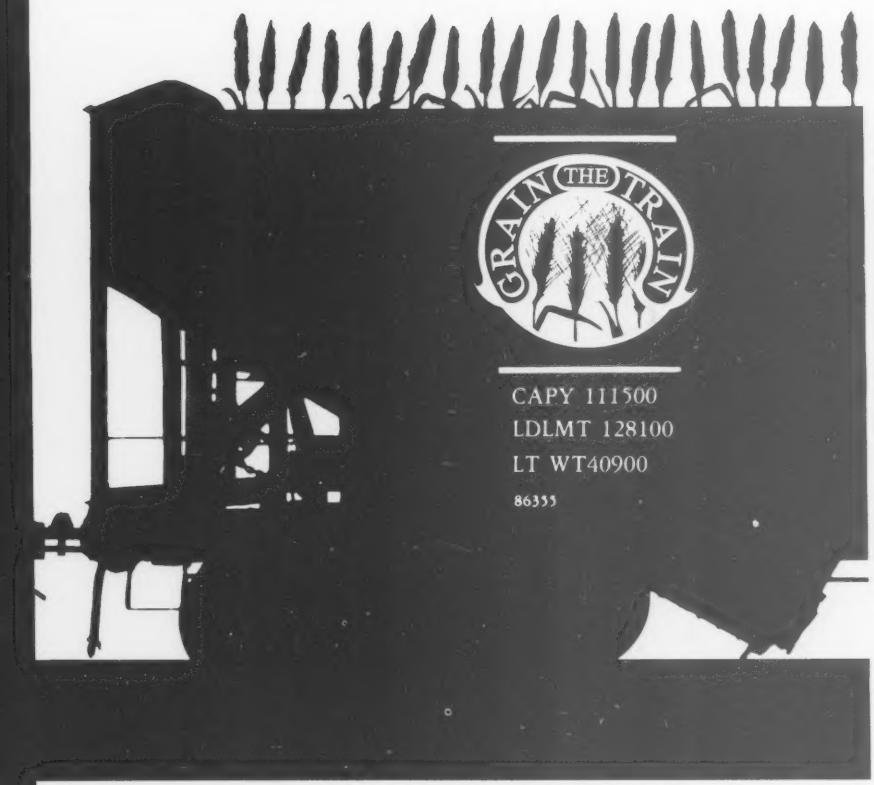


Saga worsens. Several factors, however, combined to make this year evidently the worst in a continuing saga of not enough railcars at the right place at the right time.

The makings of the shortage started back in the winter. Harsh weather hit the railroads, stranding railcars in many areas and damaging equipment, as well as impeding repairs. As a result, grain movements from interior points slowed, and turnaround time for cars increased sharply.

In February, grain loadings were down 2,700 cars per week, or 12 percent from a year earlier. By March, the covered hopper shortage alone had mounted to over 26,600 cars per day—10,000 more than in the previous record shortfall of 1973. (That year, it might be noted, was a big one for grain exports.) April saw an even worse situation—a daily shortage of as many as 37,000 covered hoppers.

The recurring demand for cars to haul fertilizer for spring planting added to the car shortage problem. And the Pullman strike reduced the number of new cars becoming available. To further complicate matters, rainy weather at some ports held up loading ships with grain.



Another wrinkle. Another wrinkle this year has been the greater-than-usual amount of grain stored in onfarm facilities, rather than in terminal elevators. Such facilities are obviously widely scattered and often located far from markets. Hence, more car days were required to move the grain to ports and domestic markets.

To get an idea of the magnitude of the onfarm storage: Of the 10-billion-bushel grain stock on hand January 1, 1978, 6.2 billion bushels were stored on farms, compared with 5.1 billion bushels last year.

Our grain exports are also expected to be large this year, exceeding 100 million metric tons for 1977/78 (Sept.-Oct.). That's 10 million more than in 1973/74, when exports strained railcar capacities.

The railcar crunch has begun to ease. But the onset of a record corn harvest coupled with the soybean harvest may cause daily shortages to rise once more.

Attracting attention. The shortage certainly hasn't gone unnoticed, however, all the way from the farmer to the Interstate Commerce Commission (ICC).

In fact, the ICC, which has regulatory power over the Nation's railroads, has taken several steps to help alleviate the problems:

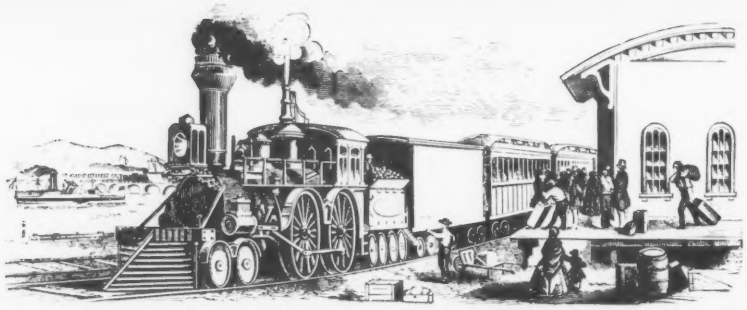
• To increase the number of grain cars available to small elevators and shippers, the Commission issued a service order on February 24 that permitted no more than 20 percent of railroad-owned jumbo hopper cars in unit-train grain service. Unit trains are defined as requiring 25 or more cars. Note that jumbo hoppers hold around 3,300 bushels of grain, compared with only 2,000 for boxcars.

Also, the order required that, after completing the required number of trips necessary to qualify for unit-train rates, all jumbo covered hopper cars had to be returned to the origin carrier for distribution to small- and medium-size elevators in the Central States.

• To free up more cars, the ICC reduced the minimum tonnage required on multicar tariffs. Thus, railroads are required to furnish fewer covered hopper cars to comply with the tariff.

Multicar tariffs, incidentally, refer to rate schedules offering reduced charges for multicar shipments.

• To curtail railcar delay, the ICC has ordered the railroads to dispatch all



loaded freight cars into service within 60 hours of arrival in the rail yard.

USDA hotline. USDA has been staying abreast of the railcar situation by manning a hotline desk in Washington, D.C. The Department has been urging those shipping grain, trade associations, and grain elevator operators to call in about any serious railcar shortages.

Barge shipments have also increased. They've gone from 25 million bushels per week in January to nearly 36 million by June. The June figure last year was only 29 million. Although no hard figures are available, shipments by truck are reported to have increased as well.

So what's the outlook for the rest of the year and the near future?

At least for the rest of 1978, it appears that the grain will get to where it needs to go, barring any unforseen crises.

For the longer term, the railroads have placed orders for a substantial number of covered hopper cars. And private shippers, who now own nearly a third of the covered hoppers, can be expected to add to their fleets. However, it's too early to tell how much of an impact this new equipment will have when it gets in service.

Encouraging statistics. Of course, the problems of the railroads themselves are by now almost legendary—bankruptcies, antiquated equipment, falling revenues, etc. But some statistics look encouraging, as these 1977 figures from the Association of American Railroads suggest:

- Freight ton-miles totaling 826 billion—the third best year and a 4-percent gain over 1976.
- New records for piggybacking—both in terms of number of cars loaded with the truck trailers and in revenues.
- Record spending—more than $8.5 billion—for capital improvements and maintenance.
- The announcement of a series of railroad merger proposals, perhaps signalling major changes in the structure of the nationwide rail system.

Track records. To get some perspective on current happenings and future trends, let's look at the railroads' track records.

From 1954 to 1976, they averaged moving about 127 million tons of unprocessed farm goods each year. And although that's quite a load, it's less than 10 percent of total carload traffic.

However, processed farm products, including animal feed, meats, and other manufactured food items averaged about 94 million tons a year. Add onto that farm machinery, fertilizer, and other farm supplies, and agriculture totes up a substantial tonnage, although other cargo makes up the bulk of railroad traffic.

According to a recent study, during most of 1954-76, agricultural shipments by rail increased moderately. And until 1965, they showed a close relationship to farm output. Since that time, they have varied considerably, mainly due to fluctuations in the amount of grain hauled.

Grains and soybeans. Grains and soybeans have consistently made up the bulk of the farm products moved by rail in the past 20 years or so—and the share has been increasing. In 1954, they accounted for nearly two-thirds of farm product shipments; by 1976, the figure was slightly over 85 percent. Translated into tons, that comes to 71 million in 1954 and 114 million in 1976.

Rail transport of "semiperishable" farm products other than grains and soybeans declined by over 32 percent during the same period. Major commodities of this type are cotton and tobacco, which registered a fairly steady decline, and sugar beets and dry ripe vegetable seeds, which increased up through 1971, but then started falling.

Bigger loads. An average carload of these semiperishables including grains and soybeans increased during 1954-76, from nearly 47 tons in 1954 to 80 in 1976. Loads of grains and soybeans alone swelled from almost 53 ns to almost 87. Tobacco loads led the pack, though, with more than an 80-percent increase in weight.

The bigger loads resulted from two factors: (1) the use of larger equipment,

Rail and Barge Shipments of Grain and Soybeans, 1972-1977

Rail	*1,000 tons*	Barge	*1,000 bushels*
1972	104,664	1972	976,962
1973	131,968	1973	990,347
1974	120,772	1974	1,031,863
1975	114,880	1975	1,195,081
1976	114,409	1976	1,611,534
1977	[1]	1977	1,522,230

[1] Data not available for 1977 in the source, *Freight Commodity Statistics,* Class 1 Railroads, Interstate Commerce Commission.

such as the 100-ton capacity covered hopper cars, and (2) incentive rates for larger shipments through the use of multiple-car shipments.

The length of haul also increased for these commodities, by about 41 percent during 1954-76. Sugar beets had the greatest increase in trip length—over 120 percent.

Exports had a lot to do with how far grain and soybeans traveled during any given year. In 1973—a big year for such exports—they traveled over 80 percent more miles than in 1954. On the other hand, in 1976, they traveled nearly one-fourth less than in 1973.

Perishables waning. The other class of unprocessed farm products—perishables—are becoming less important to the railroads. As a percent of all carlot traffic, they declined from barely over 1 percent in 1954 to less than three-tenths of 1 percent in 1976. Perishables include fresh fruits and vegetables and livestock.

The average carload for perishables has increased, however, from 14 tons in 1954 to almost 34 in 1976. Melons had the greatest increase in average load, and dry onions the least.

Shifts in the production of some perishable products, primarily fresh fruits and vegetables, to regions that are further away from some of the major markets would theoretically favor long-haul railroad transportation over the truck. However, factors other than distance have influenced shippers to switch from rail to truck.

Time, quality, convenience. Among these are longer transit times on railroads than by truck (and transit times on railroads are even longer now than in the past); allegations that quality control in handling railcars hauling perishables has declined (this is backed up by the fact that loss and damage claims for fresh fruits and vegetables have increased); and the convenience of trucks in moving a product directly from the shipping point to the receiver's facility.

This loss of perishable traffic will probably continue unless the railroads develop new concepts for hauling and handling these products.

[Based on special material from T. Q. Hutchinson, National Economic Analysis Division; the manuscript, "The Role of Railroads in Hauling Farm Products," by Patrick P. Boles, NEAD; and *Yearbook of Railroad Facts*, 1978 edition, Association of American Railroads.]

Branch Lines: A Case for Abandonment?

Since the first iron horse chugged across the prairies, American towns west of the Mississippi have considered a link with the rail system vital to their existence. And although passenger service has greatly declined with the advent of speedier alternatives, many farming and industrial areas have tenaciously clung to their rail lines.

In recent years, however, the railroads, in an effort to shore up sagging profits, have been looking to some of their least used lines as candidates for abandonment. But the communities served by many of these lines are fearful that severing these ties will mean economic hardships.

Hence the Railroad Revitalization and Regulatory Reform Act of 1976. Under this act, State governments are jointly responsible for determining which rail lines authorized by the Federal Government for abandonment are essential to the public interest. Currently, many State departments of transportation are preparing rail plans covering branch lines and alternative forms of transportation.

USDA researchers have been studying the economic implications of rail abandonment for some time.

For example, ESCS and the Nebraska Experiment Station have recently completed a study focusing on the effects of branch-line abandonments on the delivery of dry-bulk fertilizer. This study is a followup to one on track abandonment effects on grain traffic.

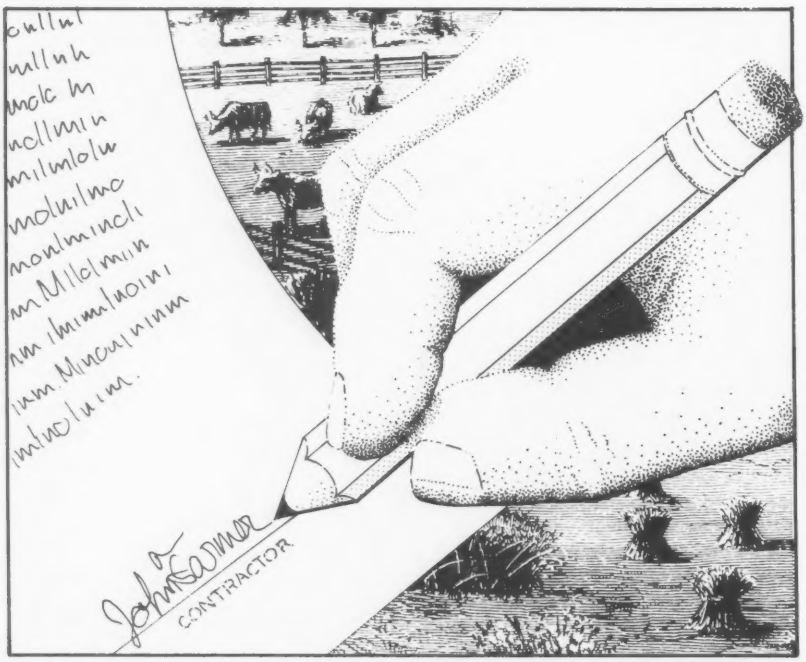
According to the earlier work, abandonment of one-fourth of the study area's branch-line track would bring net economic benefit, at least where grain—the major farm commodity leaving the area—is concerned.

The recent study found that some line abandonment would also benefit the area's fertilizer shipments—the main ones moving into the area by rail. Specifically, abandoning light-duty rail lines, with multiple-car shipments to a nearby fertilizer warehouse, were considered the optimal economic solution.

It might be noted that the lines considered for abandonment in the recent study are incapable of carrying multiple-car lots of covered hopper cars filled with either grain or fertilizer. These lines, in fact, carry little except grain traffic, and that, says the study, could move at lower cost when consolidated into 50-car lots. Much of the existing track cannot bear the weight of such shipments.

[Based on the manuscript, "Economic Implications of Branch-Line Rail Abandonments for Dry-Bulk Fertilizer Transportation and Handling Systems," by Mary Berglund and Dale G. Anderson, Agricultural Experiment Station, University of Nebraska-Lincoln, in cooperation with the National Economic Analysis Division.]

Crop and Livestock Contracting: Shaving the Risks



Whether a farmer's "John Hancock" shows up on a crop or livestock contract may depend on the size of the operation.

Farm size and contracts go together, and crop operations are clear evidence of that. About one-half of the farmers in the Rolling Plains of Texas—an agricultural area that in many ways is representative of the Nation as a whole—with 600 or more acres used contracts in 1973, while only 14 percent of the farms with fewer than 150 acres used contracts.

Contracts with beef cattle producers are likewise used mainly by big operations. No producers in the Rolling Plains with less than 20 head a year used contracts. But 60 percent of the producers with 200-499 head were involved in some kind of contracting. (The largest producers—those with 500 or more head—often deal directly with feedlots and packers.)

Agreements before marketing. A word about contracting: Basically, a contract, whether for a crop or livestock, is an agreement by the producer to sell the commodity when it's ready for market. These contracts are made before the crops are grown or the livestock are near selling weight.

For example, a beef cattle producer might contract the herd, or some part of it, to be delivered when the wheat grazing period is up—when the animals are usually about 680 pounds. The contract will most likely be made at the time the producer buys the feeder calves, which then weigh about 400 pounds.

That's the most common use of contracts for beef cattle: Seventy percent of the Rolling Plains cattle marketed through contracts came from stocker-type operations that involved wheat or other cropland grazing.

Contracting by large firms. While only 7 percent of the beef cattle producers in the Rolling Plains used contracts to sell or market livestock, more than a fifth of all beef cattle marketed in 1973 were sold under contract. Again, that's evidence that the larger operations use contracting more than smaller ones.

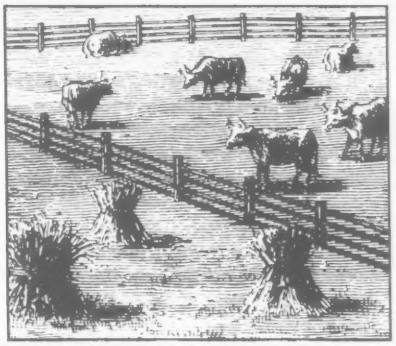
Beef cattle contracts have some restrictions, usually. They specify the price of the cattle, the amount of part-payment, the description and location of the cattle, and the places where they're to be delivered.

Other common contract terms are these:

- The buyer is allowed to cut a percentage of the cattle to sort out the ones found unacceptable.
- A 3-percent "pencil shrink" is allowed the buyer, to make up for weight lost through handling and hauling.
- Scales used to determine pay rates are specified in advance.
- The seller must furnish health and brand certificates.

Production practices. Besides these standard terms, many agreements deal with production practices. For example, implants are often prohibited, grain for feed may be nixed, or supplemental feed during drought or other bad weather may be outlawed.

Crop contracts in the Rolling Plains—an area that turns out hefty amounts of cotton, grain sorghum, and wheat, besides cattle—are classified as forward pricing contracts or advanced sale agreements. The extent of contracting shifts from year to year, depending on supply



and demand, and other market factors. But when producers make contracts before planting, most of the agreements sell field crops from a specified acreage.

Production practices usually aren't addressed in these agreements, except that some harvesting procedures are ruled out of bounds. For instance, it's common for a buyer to insist that cotton is not picked up off the ground, and for good farming practices to be followed.

Volume sometimes specified. Standard procedure for farmers contracting all production from specified acreage is for inclusion of all the acres planted or expected to be harvested. But some contracts specify the volume to be delivered. In these cases, the producers normally contract something less than the amount they expect to harvest. That serves as a buffer in case crops don't turn out well.

Most of the cotton growers in the Rolling Plains with contracts made agreements on the basis of acres harvested. Only 4 percent of them contracted by volume in 1973, while 26 percent of the grain sorghum producers signed volume contracts.

Producers across the Nation usually try to make acreage contracts. Buyers are more willing to go that route when supplies of a particular commodity are low.

Some risks on both sides. Under these terms, the buyer agrees to purchase, at a specific price, all the crop from a stated acreage. Buyers then run the risk of purchasing too much, if yields are especially high.

Of course, for those farmers who contract acres rather than volume, many of them don't contract their total acreage. Depending on their circumstances and the kinds of deals they can strike with purchasers, farmers may contract part of their output, planning to sell the rest of the harvest some other way.

Farmers may have an advantage in contracting only a portion of the intended production. Besides acting as a buffer if yields are short, if yields are good and the market price is relatively high at harvest, the farmer will have more crops to sell and can take advantage of the higher prices on that portion not under contract.

Shaving the peaks. Beyond these intricacies in contracting—which involve gambling by both sellers and buyers—the system has certain advantages for operations large enough to use it. Namely, the use of contracts can soften those peaks and valleys that play havoc with supplies and prices. That takes some of the guesswork out of figuring where supplies will come from or go to.

There's nothing new in all this. Farmers across the Nation have been contracting their commodities for years—although in the Rolling Plains, because of the beef cattle concentration and the competitive nature of cattle raising, contract activity is perhaps more intense than in other areas. But lately economists have noted a trend in the growing popularity of contracting, and they link it to larger farm operations.

Consolidation fosters contracts. On the Rolling Plains, for example, the number of beef cattle producers using contracts in 1969 was 249, with just over 58,000 head sold. By 1973, as farming and ranching operations generally consolidated, the number of beef cattle producers using contracts jumped to 781, selling nearly 146,000 head.

Contracting today is probably more widespread than ever, but estimates are fuzzy. It's likely that the practice will increase in the future, as farms get bigger.

Beef cattle producers, especially, will probably turn more to contracting, largely because (a) farms are getting larger, and (b) contracting allows feedlot managers to schedule their operations better.

Beef cattle producers, also, see lower marketing costs using contracts than sending animals to auction. That's because the costs associated with transporting the cattle, plus the auction fee, are avoided.

A tough market. Besides, in an auction, the seller has no certainty of the selling price, and is taking chances on the vagaries of the marketplace. It's a costly process for the seller to buy back cattle sold at auction that brought a low price, in effect rejecting the deal.

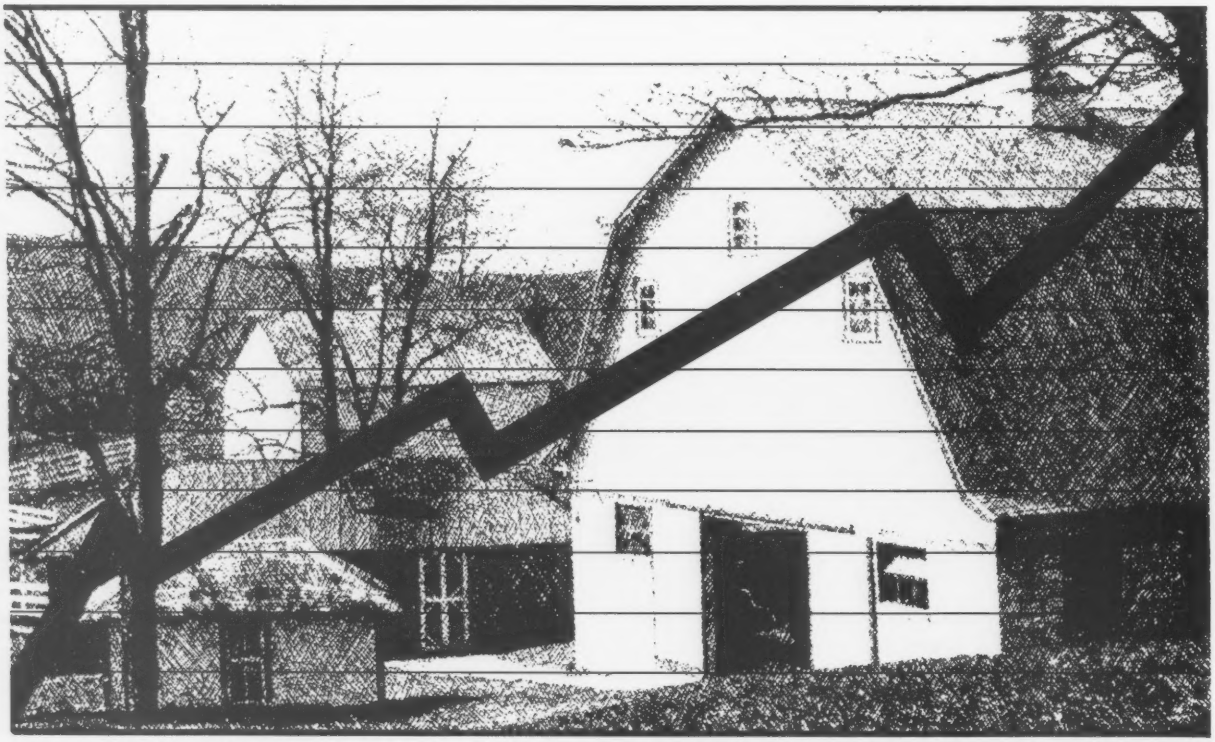
But the producers override a lot of that uncertainty through contracts. They can reject deals they judge to be unsatisfactory, or can negotiate with the buyer, based on the seller's own abilities and the qualities of the particular product being sold.

The buyers often benefit by having generally healthier cattle to choose from. These contract beef herds haven't endured the rigors of handling and hauling like the auction cattle have.

Economists expect the practice of contracting to grow. And if contracting for crops and livestock leads to lower marketing costs, more efficient marketing, or less marketing risks, the larger producers can be expected to use it more often as years go by.

[Based on *Farm Size in Relation to Market Outlets and Forward Contracts for Major Field Crops and Beef Cattle,* B-1187C, by Donald S. Moore, Texas Agricultural Experiment Station; and J. Rod Martin, National Economic Analysis Division.]

An Eye to the Future



Risk is inherent in farming. Farmers face a constant struggle against weather, insects, and disease. And the wide fluctuations in commodity prices in recent years have increased the economic risks that gnaw away financial security. As a result, farmers are showing more than a passing interest in forward markets—either by trading in futures, cash forward contracting, or by following futures market trends as a guide to decisionmaking.

A commodity futures contract is an agreement to buy and receive—or sell and deliver—a stated quantity of a commodity at a definite future date, and at a specified price, according to the rules of an organized commodity exchange.

The exchange provides an open auction market where prices can be bid and offered by anyone who wishes to participate. The price fluctuations adapt to changes in supply and demand and result from such basic factors as variations in crop yields and changes in exports.

An indication of value. Besides enabling market exchange, the futures price is an important indicator of the current general value for many commodities—as the futures price moves reflect moves in the general level of the cash price received by farmers. Moreover, the futures market provides a common reference point for prices all over the country and even the world.

Despite such important roles, the futures market attracts relatively few farmers.

In 1976, the Commodities Futures Trading Commission contracted with USDA's Statistical Reporting Service (now part of ESCS) to survey 25,000 farmers—representative of all U.S. farmers with annual gross commodity sales over $10,000—to find out just how many actually use futures markets and cash forward contracts in marketing their products.

Larger farms and futures. Only 5.6 percent of the farmers in the sample traded futures in 1976. However, 13.1 percent of farmers with sales over $100,000 traded futures. This last group of larger farms accounts for 60 percent of all farm sales.

Most individual farmers with limited time, expertise, and relatively small total output, do not trade futures contracts.

Nevertheless, nearly a third of the sampled farmers kept track of futures during 1976, especially those in the Midwest and South. And, the larger the farm, the more aware the operator was of futures prices.

Those who keep an eye on the futures market have found some practical benefits, even if they don't participate. They get a good estimate of what their commodity is worth in addition to a guide in determining when to sell.

Reflections locally. Local markets tend to reflect the futures market. Most farmers find the prices offered by their local buyers are in line with the values they observe on the futures market—once differences in delivery costs are taken into account. Thus, farmers have little price incentive to use the futures market as a physical outlet for their crop.

So why would farmers want to contract ahead? What are the benefits . . . and more importantly, the risks?

Perhaps the most important benefit of selling forward is that it allows the producer to fix the price at the time the production decision is made. The chances of taking an unforeseen loss are thereby reduced, and the farmer becomes a better credit risk.

Need for knowledge. To benefit from forward selling, the farmer must know production costs. This knowledge, along with forward pricing information, allows a farmer to tell whether a particular production and marketing operation is likely to be profitable. Fixing returns through a forward sale at the time resources are committed to production reduces the likelihood that a price drop would cut a farmer's income or jeopardize the ability to pay debts.

Of the farmers who sell forward, most use cash forward contracts rather than futures. That is, they enter an agreement directly with a particular buyer to deliver a designated commodity at a designated future date for a designated price.

In addition to fixing their prices, cash forward contracts assure farmers of outlets for their products. This is particularly crucial for producers of highly specialized or perishable products that have few alternative outlets.

The chance to gamble. Forward markets provide the farmer with the opportunity to speculate—that is, sell when the price is thought to be highest. This may be at any time of the year, from before planting to well after harvest. But such speculation is risky. Success depends on predicting price changes more accurately than other traders.

To win benefits from forward selling, farmers must face its hazards. Although it may lessen a farmer's price risk, it can leave the door open to output risk or the risk of default by the opposite party.

Output depends on the vagaries of weather, disease, and any other unforeseen events. A crop failure may force a farmer to buy his way out of a forward contract at a loss.

A rough year. For example, farmers who forward contracted soybeans and corn during the 1974 growing season had to make up for weather-reduced production at harvest by buying additional quantities at high harvest-time prices to meet their contract obligations.

So when output risks are substantial—and they generally are in growing crops—forward sales should be limited to only a portion of expected production.

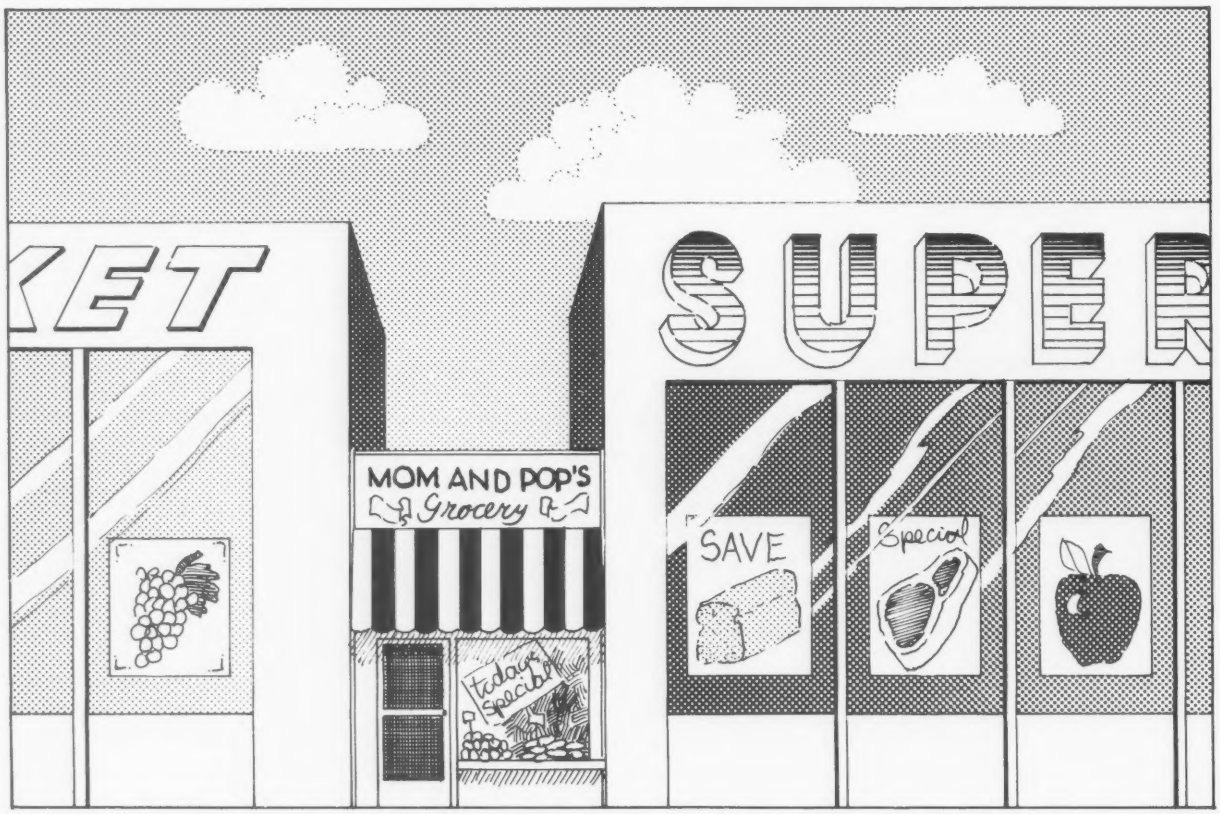
Another possible pitfall in selling ahead is the failure of the other party to meet contractual obligations. This is only a minor problem in futures trading where effective arrangements have been made to assure that every contract is met. But in cash forward contracting, buyers can go out of business or otherwise fail to uphold their end of the contract.

Using consultants. Like other traders, some farmers find the futures market complicated enough for them to rely on private consultants or advisory services for help. In addition, a wide variety of publications carry information about commodities and futures data. These include the reports of USDA, the State experiment stations, the Cooperative Federal-State Extension Service, and the Commodity Futures Trading Commission, as well as newspapers and magazines.

The final decision to sell forward through futures or cash contracts depends on the individual farmer's pricing objective and just how much may be risked. Some observers maintain, of course, that the farmer's riskiest path lies in selling the entire crop for cash at harvest.

[Based on special materials assembled by Allen B. Paul, National Economic Analysis Division, ESCS.]

Survival in a World of Bigness



That small "mom and pop" grocery store may still be operating down the street, despite the advent of chain and large supermarket dominance in the past few decades.

But chances are that the owners of such an independent, retail food store have affiliated with a large wholesaler or grocery association or resigned themselves to serving consumers' fill-in needs rather than competing with the supermarket chains.

Many such small retail grocery stores, which characterized the U.S. business at the turn of the century, went the way of the dinosaur because they could not or would not adapt to the new marketing environment.

Competitive edge. Large chains and large stores enjoy competitive advantages over their smaller rivals. While some small independents and small chains have successfully withstood the competition of large chain stores, many have failed. Their struggle is reflected in cold statistics. Since reaching a peak of about 387,000 in 1939, the number of grocery stores dwindled to about half that number, as of 1972.

Obviously, with more people to feed and much higher per capita incomes than 40 years ago, today's Americans are buying more—not less—food, despite fewer markets. In fact, total grocery store sales soared from $7.7 billion to

$93.3 billion in that same period—the largest gross sales of any U.S. industry. Average annual sales per store jumped from $19,900 in 1939 to $480,216 in 1972.

The trend toward larger stores is strongly reflected by these growth figures. The dominance of large operations is so pronounced that in 1972, 68 percent of total grocery store sales occured in supermarkets with annual sales of $1 million or more.

Major developments. Spurred by competition, retail stores continuously cast about for new ways to gain competitive edges. In the past few years, major developments have included:

- Broadening the inventory to include such nongrocery items as drugs, general merchandise, and even some clothing.

Size advantages appear to have been a factor in the increase in the physical size of individual stores. In 1953, the average new supermarket had 13,600 square feet. In 1974, the average was 26,000 feet. Meanwhile, the variety of items available multiplied. A half century ago, grocery stores handled 867 different items; in 1950, 3,750; and by 1974, 9,000 items.

An accompanying trend was toward greater nonfood sales. From 1963 to 1972, the percentage of grocery store sales comprised of groceries and other foods dropped from about 91 to 85 percent.

The advent of the food chains (firms with 11 or more stores) is largely a 20th century event. By 1930, chains operated 45,000 stores—there were only 2,000 two decades before—and controlled a third of the industry's business. By 1972, they operated 17 percent of all stores, and controlled more than half of all U.S. grocery store sales.

- Returning to "spartan stores" that offer basic staple products in cut-open shipping cases. This no-frills approach, taken by a few stores, minimizes overhead and labor costs to permit low gross margins and prices.
- Building very large stores that combine a wide variety of food and nonfood products under one roof.
- Adopting the universal product code (UPC) indentification system. Most items of food manufacured now carry a code that is machine readable by electronic scanners. While installation of this expensive equipment has been slow, more retailers now recognize its potential for market intelligence and operational control.

However, the capital investment needed to introduce such equipment again points out the edge enjoyed by larger stores and chains, which can spread out both costs and advantages over a larger volume of sales.

The major chains—those with more than 100 stores—accounted for nearly 40 percent of the total sales in 1972, with only 13 percent of all stores.

Chain power. In 1972, all but one of 263 metropolitan areas had at least one firm among the four leading firms in the city that operated more than 50 stores in the U.S. All but 10 metropolitan areas had at least one chain that operated in more than 10 cities.

While national chains are prominent in metropolitan markets, there's still plenty of room for smaller rivals. In 27 cities, one or more of the four top firms in gross sales operated only one store in the U.S.; one or more of the four largest firms in 60 cities operated 2-4 stores; and in 62 cities, one or more of the top four firms ran only 5-10 grocery stores in the U.S.

A factor in the small chains' and independents' ability to survive is their growing tendency to affiliate with large wholesaling firms or to cooperate with other retailers in the wholesaling function.

Besides furnishing products and services at prices that enable independents to compete more effectively with chains, affiliated wholesalers often offer long term credit, common store identification, common advertising and promotion programs, business and technical assistance, and private- or controlled-label merchandise—advantages that chains routinely enjoy.

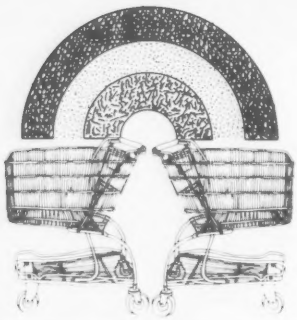
Private labels. The private-label advantage is worth noting. Many chains contract with food processors to package products with their own brand at a price below that of leading food manufacturers. Besides offering such brands at lower prices, the chain enjoys a higher gross margin and by having a private-label alternative, the chain may be able to bargain more effectively with national brand manufacturers.

Unless they're affiliated with a group wholesaler offering such a private-label service, independent retailers are likely to offer only national brands.

However, another alternative for independents or small chains is to obtain a license or franchise to sell private- or controlled-label merchandise from a distributor who specializes in the development and sale of this type of product.

Still another aspect of labeling has developed in recent years, as some retailers have begun to offer a nonlabel line of food and nonfood products.

Nonlabel "generics." Called "generics," these products are generally labeled only with the name of the product and required information on contents. While the products appear to be of lower grade than national or firstline private brands, retail prices are well below regular prices for the brand products.



As in the private-label technique, larger firms would probably have an advantage in establishing a "generic" line of products.

Still another potential larger chain advantage is that many food chains manufacture some product lines, such as dairy or bakery products, and some canned/bottled and prepared foods. Such manufacturing gives the firms a controlled supply of private-label products, as well as providing possible profits from manufacturing functions.

While smaller stores can offset some advantages enjoyed by larger competitors through joining an association or adapting other marketing techniques, the economic edge of sheer physical size is hard to overcome.

Economics of size. A recent USDA analysis found that, all things being equal, direct operating costs in large stores are substantially cheaper per unit of dry groceries than in small stores. A conventional supermarket that's four times larger than typical size operates at direct per-unit cost of 11 percent less for dry groceries. A store 13 times larger saves 16 percent.

That's even if the larger stores forego adopting technology that's economically feasible for such high-volume operations.

If the large supermarkets use labor-saving, product-handling techniques, stores that are 4 and 13 times larger than typical save 28 percent and 38 percent, respectively, in direct unit operating expenses in the dry grocery department.

Another USDA study found overhead costs per case of dry grocery, dairy, and frozen food products at headquarters, warehouse, and store levels were about 40 percent lower among large chains with large stores than among small chains with small stores.

Payroll bite. Payroll advantages are also significant. Based on 1972 data for 145 of the Nation's largest metropolitan areas, payroll expenses as a percent of sales were more than 10 percent lower among stores with annual sales of $4 million or more than among those with annual sales of $1-2 million.

Other large-store, large-chain edges also pile up, ranging from financial advantages, through lower capital costs due to lower than average business risks, to the ability to afford specialized technical and managerial personnel.

Nevertheless, smaller stores and smaller chains don't do all that badly at the bottom line: profits.

While the traditional grocery retailer profit margin of 1 percent of sales after taxes has fluctuated widely in the past few years, profit rates have averaged slightly higher among independent retailers than among larger firms. But with that higher average comes an element of uncertainty: Small firms' profits tend to vary much more.

Moreover, larger firms enjoy a far greater ability to withstand profit-squeezing pressures at a particular location: One store can endure very low profits or even losses for awhile as other stores in the chain hold up overall firm profits with solid gains.

Small store flexibility. One thing that small stores and small chains may be able to exploit in competing with large rivals is that larger chains aren't nearly as flexible in meeting the peculiar demands of particular consumer groups or even preferences in a given market area. The highly standardized large chain store characteristics, product mix, and operating practices thus limit a given store manager's resources in dealing with his local customers.

On the other hand, an independent or small chain store manager can localize product mix and promotion to entice local folks.

Large food chains are also bigger targets for labor union activity and for public pressures regarding prices, profits, and other issues.

Marketing concerns. Increasing concentration in food retailing in most major marketing areas raises two questions:

1. How effective is competition in assuring the most efficient operating practices?

2. Are costs and returns being equitably distributed between producers and consumers through reasonable prices?

There is a continuing concern that large food chains possess sufficient size and multimarket strength to weaken or eliminate retail competitors. Food chains also are accused of using their great buying power to hold down the prices they pay to farmers and to small manufacturers.

These concerns are likely to prompt continued, or increased, Government intervention to ensure that there is effective competition and that costs and returns are shared equitably among all participants in the food system.

While most of the competitive advantages favor larger stores and larger chains, their smaller scaled competitors have often withstood the pressures. And, as a USDA expert pointedly noted: "We believe that independent grocery retailers will be around for a long time."

[Based on the speech, "The Role of Large Firms and Stores in Grocery Retailing in the U.S.," by Robert E. Frye, National Economic Analysis Division, presented at the Symposium International Sur L'Economie Des Industries Alimentaires, Domaine de Grand-Maisons, Villepreux, France, July 6-7, 1978.]

Economic Trends

[1] Ratio of index of prices received by farmers to index of prices paid, interest, taxes, and farm wage rates. [2] Average annual quantities of farm food products purchased by urban wage earner and clerical worker households (including those of single workers living alone) in 1959-61—estimated monthly. [3] Annual and quarterly data on 50-State basis. [4] Annual rates seasonally adjusted second quarter. [5] Seasonally adjusted. [6] As of March 1, 1967. [7] As of February 1.

Source: U.S. Dept. of Agriculture (Agricultural Prices, Foreign Agricultural Trade, and Farm Real Estate Market Developments); U.S. Dept. of Commerce (Current Industrial Reports, Business News Reports, Monthly Retail Trade Report, and Survey of Current Business); and U.S. Dept. of Labor (The Labor Force and Wholesale and Consumer Price Index).

Item	Unit or Base Period	1967	1977 Year	1977 June	1978 April	1978 May	1978 June
Prices:							
Prices received by farmers	1967=100	—	183	184	208	215	217
Crops	1967=100	—	192	196	208	212	216
Livestock and products	1967=100	—	175	173	209	217	219
Prices paid, interest, taxes, and wage rates	1967=100	—	202	204	216	219	220
Prices paid (living and production)	1967=100	—	196	198	209	212	213
Production items	1967=100	—	200	203	214	217	218
Ratio [1]	1967=100	—	90	90	96	98	99
Producer prices, all commodities	1967=100	—	194.2	194.5	206.4	207.9	209.4
Industrial commodities	1967=100	—	195.1	194.7	206.0	207.3	208.5
Farm products	1967=100	—	192.5	192.8	213.6	215.7	219.5
Processed foods and feeds	1967=100	—	186.1	190.1	200.2	202.5	204.6
Consumer price index, all items	1967=100	—	181.5	181.8	191.3	193.2	195.1
Food, unrevised	1967=100	—	192.2	193.6	205.6	209.3	212.8
Farm Food Market Basket: [2]							
Retail cost	1967=100	—	179.2	179.3	193.3	198.2	203.2
Farm value	1967=100	—	178.7	178.0	207.6	212.1	215.4
Farm-retail spread	1967=100	—	179.5	180.1	184.2	189.4	195.5
Farmers' share of retail cost	Percent	—	39	38	42	41	41
Farm Income: [3]							
Volume of farm marketings	1967=100	—	125	108	92	97	110
Cash receipts from farm marketings	Million dollars	42,817	96,084	6,685	7,110	7,750	8,300
Crops	Million dollars	18,434	48,519	2,886	2,403	2,783	3,500
Livestock and products	Million dollars	24,383	47,565	3,799	4,707	4,967	4,800
Gross income [4]	Billion dollars	49,863	108,100	106,700	—	—	124,000
Farm production expenses [4]	Billion dollars	38,181	87,969	87,000	—	—	97,000
Net income before inventory adjustment [4]	Billion dollars	11,682	20,131	19,700	—	—	27,000
Agricultural Trade:							
Agricultural exports	Million dollars	6,380	23,671	1,880	2,508	2,729	2,640
Agricultural imports	Million dollars	4,452	13,459	1,240	1,309	1,277	1,149
Land Values:							
Average value per acre	Dollars	[6] 168	[7] 450	—	[7] 490	—	—
Total value of farm real estate	Billion dollars	[6] 189	[7] 482	—	[7] 524	—	—
Gross National Product: [4]	Billion dollars	796.3	1,887.2	1,867.0	—	—	2,076.9
Consumption	Billion dollars	490.4	1,206.5	1,188.6	—	—	1,324.0
Investment	Billion dollars	120.8	297.8	295.6	—	—	342.2
Government expenditures	Billion dollars	180.2	394.0	388.8	—	—	424.6
Net exports	Billion dollars	4.9	-11.1	-5.9	—	—	-13.9
Income and Spending: [5]							
Personal income, annual rate	Billion dollars	626.0	1,529.0	1,517.4	1,670.2	1,681.4	1,695.8
Total retail sales, monthly rate	Billion dollars	24.4	58.9	57.8	64.1	63.9	64.0
Retail sales of food group, monthly rate	Billion dollars	5.8	13.0	13.0	14.2	14.3	14.3
Employment and Wages: [5]							
Total civilian employment	Millions	74.4	90.5	90.6	93.8	94.1	94.8
Agricultural	Millions	3.8	3.2	3.3	3.3	3.2	3.5
Rate of unemployment	Percent	3.8	7.0	7.1	6.0	6.1	5.7
Workweek in manufacturing	Hours	40.6	40.3	40.5	40.6	40.3	40.4
Hourly earnings in manufacturing, unadjusted	Dollars	2.83	5.63	5.22	5.61	5.63	5.66
Industrial Production: [5]	1967=100	—	137.1	137.8	143.0	143.8	144.3
Manufacturers' Shipments and Inventories: [5]							
Total shipments, monthly rate	Million dollars	46,487	111,256	111,003	124,751	124,080	—
Total inventories, book value end of month	Million dollars	84,527	179,714	176,468	185,715	187,486	—
Total new orders, monthly rate	Million dollars	47,062	112,842	112,141	128,589	129,261	—

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